BatLab Basic Project Kit – RBG LED (Common Anode)

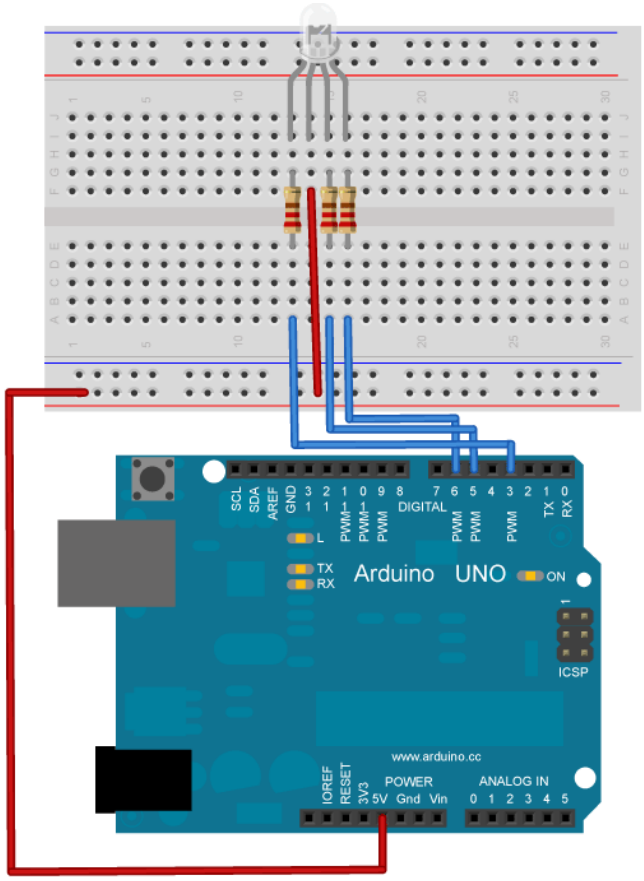
HOW IT WORKS

You know what's even more fun than a blinking LED? A colored one. RGB, or red-green-blue, LEDs have three different color-emitting diodes that can be combined to create all sorts of colors. In this circuit, you'll learn how to use an RGB LED to step through its 3 basic colors. [To do color mixing, try the code from the RGB Module experiment and change the pin assignments as necessary]

PARTS

- Arduino Uno, breadboard, and jumper wires
- RGB LED
- 3 220Ω resistors (red marking)

CIRCUIT



WIRING

Note that one pin on the RGB LED is longer than the others. This is the anode, or positive terminal. Be sure that it is connected to Arduino 5V.

CODE

```
/* BatLab Basic Project Kit

RGB LED color change

/*
  Rotates through each differently colored LED
  of the LED RGB. Each color is turned on for 2 seconds.
This sketch illustrates the use of an array, ledPin, to hold the pin
numbers for each color of the LED.  This same code could be used for
any number of separate LEDs - just change the numLEDs variable, the
index number in the ledPin declaration, and add
pin number variables for each extra LED.

 */

// Defining the LED driver pins and some other
// variables.

const int numLEDs = 3;

int blueLEDPin  = 6;
int greenLEDPin = 5;
int redLEDPin   = 3;

int ledPin[3];
int ledPinIndex = 0;


void setup()
{
  // initialize the digital pins as outputs.
  ledPin[0] = blueLEDPin;
  ledPin[1] = greenLEDPin;
  ledPin[2] = redLEDPin;
  for (int i=0; i < numLEDs; i++)
     pinMode(i, OUTPUT);
}

void loop()
{
  digitalWrite(ledPin[ledPinIndex%numLEDs], HIGH);
  delay(2000);               // wait for 2 seconds
  digitalWrite(ledPin[ledPinIndex%numLEDs], LOW);
  ledPinIndex++;
```

```
}
```